

DERWENT-ACC-NO: 2001-135686

DERWENT-WEEK: 200114

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TITLE: Nickel-base alloy for single crystal
seeds and method of
its smelting

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PATENT-ASSIGNEE: AVIATION MATERIALS RES INST[AVIAR]

PRIORITY-DATA: 1999RU-0104059 (February 26, 1999)

PATENT-FAMILY:

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RU 2158781 C1		November 10, 2000	
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APPLICATION-DATA:

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ABSTRACTED-PUB-NO: RU 2158781C

BASIC-ABSTRACT:

NOVELTY - Alloy offered for production of single crystal refractory seeds contains, weight %: one element from group including rhenium and rhodium 25-50; yttrium 0.001-0.100; the balance, nickel. Method of alloy smelting includes charging of mixture, its melting under vacuum, multiple thermocycling of melt by its heating to temperature of 1660- 1780 deg. C, holding at this temperature and cooling down to temperature of 1630-1650

deg. C with
simultaneous electromagnetic stirring, deoxidation of melt
and its pouring. In
so doing, duration of heating and holding of melt relates
to period of cooling
and stirring of melt as (2-3):(1-1.5).

USE - For non-ferrous metallurgy.

ADVANTAGE - Extended potentialities of production process
due to use of seeds
from nickel alloy with high melting point, higher working
temperature in casing
of single crystal blades of gas turbine engines and gas
turbine installations
of preset crystallography orientation, increased yield of
product by
macrostructure by 7-10 %.

CHOSEN-DRAWING: Dwg.0/0

TITLE-TERMS: NICKEL BASE ALLOY SINGLE CRYSTAL SEED METHOD
SMELT

DERWENT-CLASS: M26

CPI-CODES: M26-B08; M26-B08Z;

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